

- 1 1. A solution for the calibration of an oxygen sensor, the solution comprising:
2 a selected concentration of choline; and
3 a known oxygen content,
4 wherein said selected concentration of choline is sufficient to reduce a rate of loss of
5 oxygen content in said solution, and said known oxygen content in said solution is sufficient
6 for calibration of the oxygen sensor.
- 1 2. The solution of claim 1 wherein said rate of loss of oxygen content in said solution is
2 in the range of about 0.05 mmHg/month to about 5.0 mmHg/month.
- 1 3. The solution of claim 1, wherein choline comprises choline chloride.
- 1 4. The solution of claim 1, wherein choline comprises a compound selected from the
2 group consisting of choline hydrogen citrate, choline bitartrate, choline bicarbonate,
3 tricholine citrate, choline ascorbate, choline borate, choline gluconate, choline phosphate,
4 choline di(choline)sulphate and dicholine mucate.
- 1 5. The solution of claim 1, wherein the concentration of said choline is in a range of
2 about 5 mmol/L to about 100 mmol/L.
- 1 6. The solution of claim 1, wherein the concentration of said choline comprises about 20
2 mmol/L.
- 1 7. The solution of claim 1, wherein said oxygen content is selected from a range of
2 about 10 mmHg to 300 mmHg.
- 1 8. The solution of claim 7, wherein said oxygen content comprises about 100 mmHg.
- 1 9. The solution of claim 7, wherein said oxygen content comprises about 180 mmHg.

- 1 10. The solution of claim 1, further comprising CO₂.
- 1 11. The solution of claim 1, further comprising helium gas.
- 1 12. The solution of claim 1, further comprising Na⁺.
- 1 13. The solution of claim 1, further comprising K⁺.
- 1 14. The solution of claim 1, further comprising Ca⁺⁺.
- 1 15. The solution of claim 1, further comprising HCO₃⁻.
- 1 16. The solution of claim 1, further comprising a surfactant.
- 1 17. The solution of claim 1, further comprising an inert preservative.
- 1 18. The solution of claim 1, further comprising a biological buffer.
- 1 19. A container of calibration solution for calibrating an electrochemical sensor, the
2 container of calibration solution comprising:
3 the calibration solution, comprising:
4 a selected concentration of choline; and,
5 a known oxygen content, wherein said selected concentration of choline is
6 sufficient to reduce a rate of loss of oxygen content in said solution, and said known oxygen
7 content in the solution is sufficient for calibration of an oxygen sensor; and
8 a substantially gas-impermeable wall for holding the calibration solution.
- 1 20. The container of calibration solution of claim 19, wherein said container comprises at
2 least one flexible wall.
- 1 21. The container of calibration solution according to claim 19, wherein said container is
2 sealed to prevent a headspace comprising a gas.

1 22. The container of calibration solution according to claim 19, wherein said choline
2 comprises choline chloride.

1 23. The container according to claim 19, wherein said choline comprises a compound
2 selected from the group consisting of choline hydrogen citrate, choline bitartrate, choline
3 bicarbonate, tricholine citrate, choline ascorbate, choline borate, choline gluconate, choline
4 phosphate, choline di(choline)sulphate, and dicholine mucate.

1 24. The container according to claim 19, wherein said known concentration of choline is
2 selected from the range of about 5 mmol/L to about 100 mmol/L.

1 25. The container according to claim 24, wherein said known concentration of choline
2 comprises about 20 mmol/L.

1 26. The container according to claim 19, wherein said known oxygen content is selected
2 from the range of about 10 mmHg to 300 mmHg.

1 27. The container according to claim 26, wherein said oxygen content comprises about
2 100 mmHg.

1 28. The container according to claim 27, wherein said oxygen content comprises about
2 180 mmHg.

1 29. The container according to claim 19, wherein said solution comprises CO_2 .

1 30. The container according to claim 19, wherein said solution comprises helium gas.

1 31. The container according to claim 19, wherein said solution comprises Na^+ .

1 32. The container according to claim 19, wherein said solution comprises K^+ .

1 33. The container according to claim 19, wherein said solution comprises Ca^{++} .

1 34. The container according to claim 19, wherein said solution comprises HCO_3^- .

- 1 35. The container according to claim 19, wherein said solution comprises a surfactant.
- 1 36. The container according to claim 19, wherein said solution comprises an inert
2 preservative.
- 1 37. The container according to claim 19, wherein said solution comprises a biological
2 buffer.
- 1 38. A method of reducing a rate of loss of oxygen content in a solution, comprising:
2 providing the solution having a known oxygen content; and
3 adding an amount of choline to the solution,
4 wherein said choline amount is sufficient to reduce said rate of loss of oxygen content
5 in the solution.
- 1 39. The method of claim 38, wherein the amount of choline added to said solution is
2 selected from a range of about 5 mmol/L to 100 mmol/L.
- 1 40. The method of claim 39, wherein the amount of choline added to the solution
2 comprises about 20 mmol/L.
- 1 41. The method of claim 38, wherein choline comprises choline chloride.
- 1 42. The method of claim 38, wherein said oxygen content is in a range of about 10 mmHg
2 to about 300 mmHg.
- 1 43. The method of claim 42, wherein said oxygen content comprises about 100 mmHg.
- 1 44. The method of claim 42, wherein said oxygen content comprises about 180 mmHg.
- 1 44. The method of claim 38, wherein said solution comprises a calibration solution.
- 1 46. The method of claim 38, wherein choline comprises a compound selected from the
2 group consisting of choline hydrogen citrate, choline bitartrate, choline bicarbonate,

3 tricholine citrate, choline ascorbate, choline borate, choline gluconate, choline phosphate,
4 choline di(choline)sulphate and dicholine mucate.

1 47. The method of claim 38, wherein said solution comprises CO_2 .

1 48. The method of claim 38, wherein said solution comprises helium gas.

1 49. The method of claim 38, wherein said solution comprises Na^+ .

1 50. The method of claim 38, wherein said solution comprises K^+ .

1 51. The method of claim 38, wherein said solution comprises Ca^{++} .

1 52. The method of claim 38, wherein said solution comprises HCO_3^- .

1 53. The method of claim 38, wherein said solution comprises a surfactant.

1 54. The method of claim 38, wherein said solution comprises an inert preservative.

1 55. The method of claim 38, wherein said solution comprises a biological buffer.